Exhibit D

May 31, 1949. A. J. SON 2,472,028

STERILIZING TRAY FOR HYPODERMIC NEEDLES AND THE LIKE

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Fig. 1

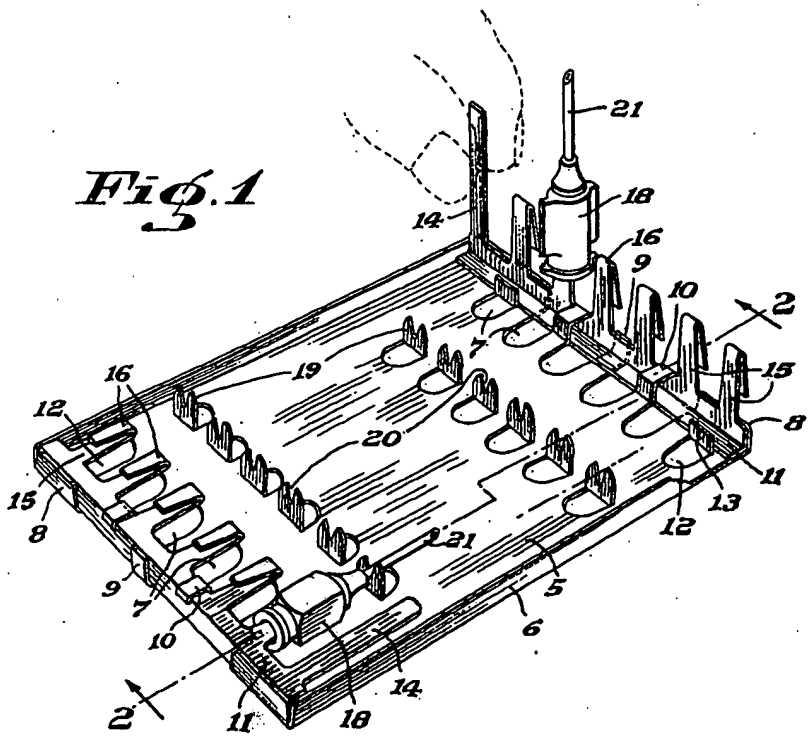
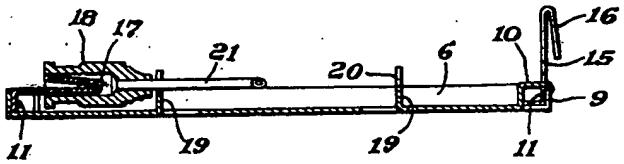


Fig. 2



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STERILIZING TRAY FOR HYPODERMIC NEEDLES AND THE LIKE

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10 Claims. (Cl. 21—105)

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My present invention relates to a tray adapted to support a plurality of hypodermic needles, regardless of the size and shape of their hubs, so that they may either be disposed flat for convenience in packaging or carrying them or disposed in an upright position when they are to be sterilized or one of them removed for use.

As the hubs of hypodermic needles are made in various sizes and shapes, it is desirable to have a container in which needles having different types of hubs could be firmly supported. This is particularly true where the container is a sterilizer as in that case there may well be hubs of several widely differing sizes and shapes among the needles to be sterilized together. While a tray in accordance with my invention may be made solely for use in packaging hypodermic needles or in sterilizing them, in its preferred embodiment, it is adapted for both uses to provide maximum convenience in carrying them and in preparing them for use.

In accordance with my invention, such a tray comprises a base and at least one member hinged thereto. Because a hub, regardless of its size and shape, has a bore to receive the conventional barrel tip, I provide the member with a plurality of spaced fingers, the extremities or heads of which are adapted to enter the hubs and to provide firm support for the thus held needles. In addition, I provide the tray with an upwardly disposed tab in alinement with each finger to support the cannula of a needle mounted on the member when the member is so positioned that the needles are parallel to the base. For convenience, I provide [illegible] member with an operating arm and prefer [illegible] hinge means connecting each member to the base be such that the member is held resiliently in either its upright or flat position. Where the base carries a member adjacent each of its ends, I prefer to so space the fingers of one member relative to the fingers of the other member that the cannula of a needle supported by one of them may extend forwardly between two cannulae of needles supported on the other member.

In the accompanying drawings, I have shown an illustrative embodiment of my invention from which these and other of its novel features and advantages will be readily apparent.

In the drawings:

Fig. 1 is a perspective view of a tray in accordance with my invention, and

Fig. 2 is a section thorugh the tray along the lines 2—2 of Fig. 1.

In the embodiment of my invention shown in

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the drawings, my tray comprises a base 5 having upwardly disposed sides 6. The blank from which the tray is formed has each of its end portions cut away as at 7 to provide tabs 8, 9, and 10. The extremities of the tabs 8 and 9 are bent upwardly to establish end wall sections of the same height as the sides 6, while the tabs 10 extend upwardly and forwardly so that they and the tabs 8 and 9 form a keeper for the member 11 hingedly connecting it to the base 5. Preferably, one of the tabs 8, at each end of the base, has an aperture 12 to provide an upwardly disposed lip 13 constituting part of the keeper.

Each of the members 11 is preferably of resilient stock and L-shaped in cross section and has an arm 14 and a plurality of spaced fingers 15. The end of each finger is bent back to establish a resilient head 16 adapted to enter the bore 17 of a needle hub 18 to firmly connect it to the member 11. The arm 14 of each of the members 11 is substantially longer than the fingers 15 and is preferably located at one side of the tray to render it readily accessible when it is desired to so turn a member 11 as to raise the needles supported thereon into a substantially upright position or to position them flat in the tray. While any type of hinge means may be used to connect the members 11 to the base 5, I prefer that it be such as to resiliently hold the member in either of its positions.

I also form from the base a plurality of upwardly disposed tabs 19. Each of these alines with one of the fingers 15 and is spaced therefrom a distance greater than the maximum length of a needle hub and each is preferably notched as at 20 to support a cannula 21.

Where, as shown in the drawings, a tray 5 has a member 11 at both of its ends, I prefer to so space the fingers 15 of one of the members 11 that they do not aline with the finger 15 of the other member so that the cannula of a hub on one of the members 11 may extend between a pair of cannulae, the hubs of which are supported on the other member 11.

My trays are simple and inexpensive to manufacture and may be employed to firmly support needles when packaged or carried and at the same time affords the user maximum convenience when the needles are to be sterilized for use regardless of the size and shape of their hubs.

What I therefore claim and desire to secure by Letters Patent is:

1. A sterilizing tray for hypodermic needles having their hubs formed each with a tip receiving bore, said tray comprising a base, a member

including an arm and a plurality of fingers spaced substantially in parallel therewith, each of said fingers terminating in a bore entering head to detachably connect a needle hub to said member, and hinge means connecting said member to said tray so that the needles on said member may be moved by said arm from a position in which they are in a plane substantially in parallel with said base to a position substantially perpendicular thereto.

2. The tray of claim 1 in which the hinge means resiliently locks the member in either position.

3. The tray of claim 1 in which the base has a plurality of supports spaced from the hinge means, each of which is alined with one of the fingers and has a recess to support a cannula when the member is in the first named position.

4. The tray of claim 1 in which each finger is of resilient stock having its extremity disposed upwardly and rearwardly to establish a resilient bore entering head.

5. A sterilizing tray for hypodermic needles having their hubs formed each with a tip receiving bore, said tray comprising a base, a pair of members each including an arm and a plurality of fingers spaced substantially in parallel therewith each of said fingers terminating in a bore entering head to detachably connect a needle hub to such finger, and hinge means connecting said members to opposite ends of said tray so that the needles on each of said members may be moved by its arm from a position in which they are in a plane in parallel to said base into a position in which the needles are substantially perpendicular thereto, the fingers of either of said members being spaced in offset relation to the fingers of the other of said members.

6. A sterilizing tray for hypodermic needles having their hubs formed with tip receiving bores, said tray comprising a member including an arm and a plurality of spaced fingers disposed in parallel with said arm and each including a bore entering tip to resiliently lock a needle to said member, and a base having marginal tabs embracing a part of said member, some of which extend upwardly and then forwardly and others

of which extend forwardly and then upwardly to pivotally connect said member to said base for movement between a position in which said needles are substantially perpendicular to said base and a position in which they lie in a plane substantially parallel thereto.

7. The tray of claim 6 in which the base has a plurality of upwardly disposed cannula supporting tabs each of which is in alinement with one of the fingers and is spaced therefrom a distance greater than the maximum length of a hub, and the arm is at one end of the member and is of a length substantially greater than that of the fingers.

8. The tray of claim 6 in which the tabs are separated from each other by apertures.

9. A sterilizing tray for hypodermic needles having their hubs formed with tip receiving bores, said tray comprising a member including an arm and a plurality of spaced fingers disposed in parallel with said arm and each including a bore entering tip constructed to resiliently lock a needle to said member, and a base having sides and marginal tabs embracing a part of said member, some of which extend upwardly and then forwardly and others of which extend forwardly and then upwardly to establish end wall sections and to pivotally connect said member to said base for movement between a position in which said needles are substantially perpendicular to said base and a position in which they lie in a plane substantially parallel thereto.

10. The tray of claim 9 in which the member is L-shaped in section and the marginal tabs establish a substantially rectangular keeper resiliently holding the member in either of its positions.

ANTHONY J. SON.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
2,135,279	Dickenson et al.	Nov. 1, 1938